

Site: Shiloh Church Road Site

Task: Excavation

Date: 9/19/19

Predicted Predominant Wind Direction: NE

Predicted Maximum Wind Speed: 6 mph



Ludlum 3030 Serial Number:	187982	Cal Due Date:	2/19/2020
Th-230 4π efficiency:	0.3244	Tc-99 4π efficiency:	0.3155
Pu-239 4π efficiency:	0.3996	C-14 4π efficiency:	0.0679
Am-241 4π efficiency:	0.3452	Sr-90 4π efficiency:	0.4264

Notes: AC-5 assigned to Excavation Team.

Radionuclide Air Sampling
Daily Summary
Shiloh Church Road Site
Halifax County, Virginia

Date: 9/19/19

Predicted Predominant Wind Direction: NE

Public Results

Effluent Limits	Alpha (Ra-226)	9.00E-13	Beta (Pb-210)	6.00E-13
Air Sampler Location	% Of Effluent Concentration Limit	Alpha Result	% Of Effluent Concentration Limit	Beta Result
Perimeter-1 - SW Perimeter	<1.15%	-1.18E-15	<52.81%	1.77E-13

Worker Results

Derived Air Concentrations	Alpha (Ra-226)	3.00E-10	Beta (Pb-210)	1.00E-10
Tasks Monitored	% Of DAC	Alpha Result	% of DAC	Beta Result
AC-5 - Excavation Team	<0.11%	1.56E-14	<9.74%	-2.30E-12

Comments:

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Air Sampling Unit: Radeco H-810 ERT-148

Calibrator Serial: 3267

Cal Due Date: 8/9/19

α isotope of concern

Ra-226

β isotope of concern

Pb-210

Start Date/Time	9/19/19 8:25				Stop Date/Time				9/19/19 17:20				
					Total Liters				68,568				
Analysis Date/Time	Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)
9/25/19 11:19	138.0	120	60	95	44	-0.06	1.04E-14	-1.18E-15	4635	2427	1.83	3.17E-13	1.77E-13
Final Result	Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)
9/25/19 11:19	138.0	120	60	95	44	-0.06	1.04E-14	-1.18E-15	4635	2427	1.83	3.17E-13	1.77E-13
							% Eff Criteria:	<1.15%				% Eff Criteria:	<52.81%

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Air Sampling Unit: AirCheck XR5000 AC-5

Dry Cal Serial: 132112

Cal Due Date: 7/11/20

Dry Cal Serial: 132112					Cal Due Date: 7/11/20					α isotope of concern				Ra-226		β isotope of concern				Pb-210	
Pre Flow Rate (LPM)		4.530					Post Flow Rate (LPM)					4.786									
Start Date/Time		9/19/19 8:30					Stop Date/Time					9/19/19 16:55									
							Total Liters					2231.3									
Analysis Date/Time		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
9/25/19 12:29		139.6	120	60	95	49	0.03	3.19E-13	1.56E-14	4635	2271	-0.77	9.74E-12	-2.30E-12							
Final Result		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
9/25/19 12:29		139.6	120	60	95	49	0.03	3.19E-13	1.56E-14	4635	2271	-0.77	9.74E-12	-2.30E-12							
								% DAC:	<0.11%					% DAC:	<9.74%						

Notes: Assigned to Excavation Team.